



September 17, 2015

Scott Mathias
Associate Director
Air Quality Policy Division
U.S. Environmental Protection Agency
Research Triangle Park, NC 27711

Re: Air Dispersion Modeling of Indiana Sulfur Dioxide Pollution

Dear Associate Director Mathias,

Sierra Club urges the U.S. Environmental Protection Agency to designate the areas surrounding the Gibson, Clifty Creek, Rockport, and A.B. Brown coal-fired power plants as nonattainment under the sulfur dioxide (“SO₂”) National Ambient Air Quality Standard (“NAAQS”). Air dispersion modeling recently conducted by Wingra Engineering, S.C. on behalf of Sierra Club demonstrates that ambient air concentrations in these areas exceed the NAAQS, which is the maximum concentration of air pollution allowed to protect public health.

First, air dispersion modeling demonstrates that SO₂ emissions from the Gibson coal-fired power plant in Indiana have caused downwind SO₂ ambient air concentrations to exceed the 196.2 micrograms per cubic meter NAAQS. In particular, the modeling of actual emissions from this facility alone shows peak concentrations as high as 276.8 micrograms per cubic meter. When the actual emissions from another large source of SO₂ that is located within 50 kilometers of the Gibson Generating Station are included, the peak concentration is as high as 726.9 micrograms per cubic meter. Moreover, the modeling results are consistent with the only monitor located in the modeled SO₂ plume. The 2012-14 design value measured at monitor #5-18-051-0002 188 micrograms per cubic meter. Based on actual hourly emissions from the Gibson plant and other regional sources, the modeling analysis predicted a concentration near the monitor location without background of 181.9 micrograms per cubic meter. Since the predicted and actual measured design values are in close agreement, this comparison supports the accuracy of Sierra Club’s modeling results. Accordingly, the U.S. Environmental Protection Agency should designate the area surrounding the Gibson coal-fired power plant as nonattainment under the NAAQS.

Second, air dispersion modeling demonstrates that actual SO₂ emissions from the Clifty Creek coal-fired power plant in Indiana have caused downwind peak SO₂ ambient air concentrations as high as 281.4 micrograms per cubic meter. When the actual emissions from two other sources of SO₂ that are located within 50 kilometers of the Clifty Creek Generating Station are included, the peak concentration is as high as 283.6 micrograms per cubic meter. Therefore, the U.S. Environmental Protection Agency should also designate the area surrounding the Clifty Creek coal-fired power plant as nonattainment under the NAAQS.

Finally, air dispersion modeling demonstrates that SO₂ emissions from the Rockport and A.B. Brown coal-fired power plants, along with actual emissions from other large SO₂ sources that are within 50 kilometers of the plants, have caused downwind SO₂ ambient air concentrations to exceed the NAAQS. Specifically, the modeling shows cumulative peak concentrations for Rockport Generating Station and A.B. Brown as high as 613.6 and 1,231.6 micrograms per cubic meter, respectively. The U.S. Environmental Protection Agency should thus designate the area surrounding the Rockport and A.B. Brown coal-fired power plant as nonattainment under the NAAQS.

Enclosed, please find the results of the modeling analyses, along with the corresponding modeling input and output files.

Sierra Club urges the U.S. Environmental Protection Agency to consider this information as it undertakes area designations in Indiana for the 2010 revised primary SO₂ NAAQS. This information is being provided to both EPA Region 5 and to appropriate personnel at the Indiana Department of Environmental Management. In the meantime, please let us know if we can provide any additional information.

Thank you for your attention to and consideration of this matter, and please do not hesitate to contact us if you would like to discuss further.

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Sincerely,

A handwritten signature in black ink that reads "Kristin A. Henry". The signature is written in a cursive style with a large, stylized "K" and "H".

Kristin A. Henry
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